Posthuman Methodologies *for* Post-Industrial Cities: A Situated, Speculative, and Somatechnic Venture

Carol A. Taylor and Jasmine B. Ulmer

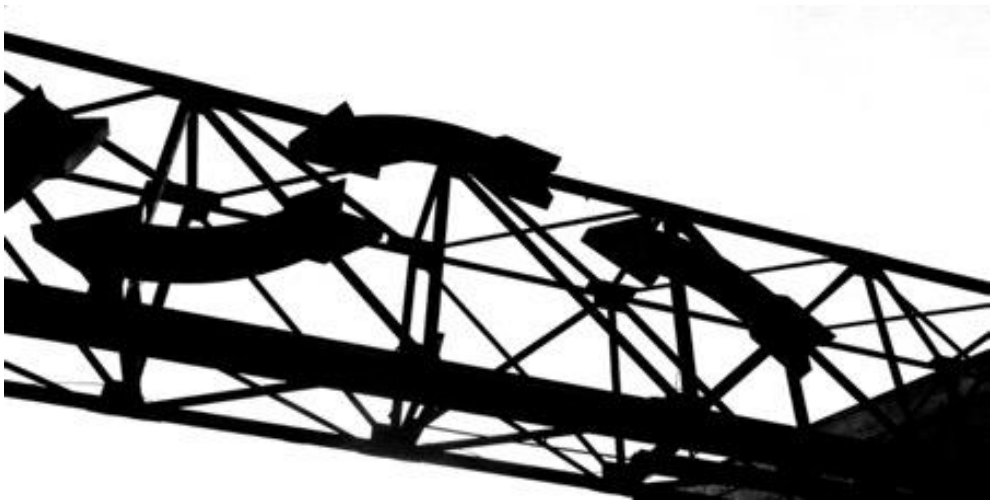

Image 1 *Untitled* (Jasmine B. Ulmer)

Abstract

This article proposes a posthuman / materialist somatechnics approach which encourages a more nuanced, ethical, and embodied attentiveness to how humans, nature, and materialities are not separate, but actively emerge through entanglements and in co-constitutive relation with one another. Such an attentiveness recognises that we are shaped by the places in which we live and by the many others – human and nonhuman – with whom we live. It also urges the need to reshape research methodologies. To illuminate how we might more closely attend to the places in which we live, learn, teach, inquire, and research, this article offers a series of situated, speculative, and somatechnic engagements arising from our recent ventures in two separate post-industrial cities. The article is framed as a mode of writing otherwise – as a series of experimental elemental essays and the theory-practice diffractive musings they have

given rise to. Taken together, the essays and musings aim to contest deficit discourses of post-industrial cities and the multiple bodies who / which inhabit them. The posthuman situated and speculative somatechnics approach we propose offers insights into unexpected and surprising new relations. We hope the elemental essays and musings which follow invite readers to take up the ‘practice of the pause’ in their own places and spaces.

Keywords: materialist, methodology, posthuman, post-industrial, somatechnic, speculative

Image 2 *Untitled* (Carol A. Taylor)

Introduction

This article ventures the question: how might post-industrial cities demand posthuman post-industrial methodologies attuned to situated, speculative, and somatechnic knowledges? We are two scholars – one of us is in Sheffield in the UK, the other in Detroit in the USA – whose universities are located in cities widely considered to be 'post-industrial'. Our cities have, like many others in the so-called 'Global North', for many years faced the material consequences of global capitalist restructuring under ruthless neoliberal conditions that have entailed the dismantling of welfare provision, a roll-back of state regulation, and a shift from heavy industry and factory modes of mass-production, the cultural, social, and economic costs of which have been severe. As Cathrine Thorleifsson (2016: 558) notes, 'in 1999, the EU recognized South Yorkshire [the county in which Sheffield is situated] as one of the most deprived areas in Europe'. Sheffield and Detroit's shared legacy of de-industrialised deprivation is, in Detroit's case, folded into a racialized economics that position the city

Sheffield. Elemental City.

C, Cr, Mo, Ni, V, Co, Mn, Si, Nb and Al, B, Cu, N, Pb, P.

Detroit.

Air streams. Water streams. Metal streams, too. It flows,

sending sparks flying in darkness.

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as a place, in Elizabeth Currans' (2018: 2) words, of 'urban ruins … deeply associated with blackness and white suburban flight'. Indeed, if you type 'Detroit' into Google, image after image of abandoned and neglected buildings, overgrown plant-life, human-less landscapes, abandoned concrete wastelands, and other forms of destruction assail your eyes. Sheffield likewise can be 'captured' in such 'ruin porn' photographic portrayals. Our intention in this article is to contest such misrepresentations, to work against dominant, linear, masculinist, progressivist tropes which figure the post-industrial city as sliding remorselessly into dereliction, disuse, and despair (Image 2 above is one of many that speaks to this narrative). We ask: how, as higher education teachers and researchers with allegiances to posthumanist and materialist approaches might we contest developmentalist narratives of industrial progress which position both of our respective cities as dead and dying spaces, spaces which had their heyday sometime in the past and which the march of progress has now left behind? Our contention is that posthuman somatechnics gives us some theoretical and methodological routes into shaping how this contestation might be done, and to this end, the article offers a diffractive account of a series of elemental thinking-withs (thinking-with water; thinking-with air; thinking with metal) that we undertook in three posthuman / materialist

Image 3 *Untitled* (Carol A. Taylor)

methodological modes (serendipitous walking, diffractive photo elicitation, and the practice of the pause) as we shortly explain.

A Posthuman Somatechnics of Materialist Mattering for/in Higher Education

In contesting developmental narratives of progress, the article outlines the theory-method-practice of a situated, speculative, posthuman / materialist somatechnics, and, through some empirical materials, explores how somatechnical posthuman methodologies invite us to attend to the post-industrial cites we inhabit. There is a clear reason to propose a posthuman / materialist somatechnics – which is so we might attend in more nuanced, ethical, and embodied ways to how humans, nature, and materialities are not separate but actively emerge through entanglement and in co-constitutive relation. The ethico-onto-epistemological presumption (Barad 2007) of posthuman somatechnics is that matter is agentic and forceful, that agency is distributed, meaning that neither human nor nonhuman is

Air

We can tell whatever stories we want about Detroit, but as the residents of some neighborhoods here know all too well, there are times when the air can probably tell those stories better. As I scroll through my portfolio of pictures in Detroit, I notice I do not take pictures of the air.

Air as research figuration holds a promise. Air escapes its classifications by barometer. The biopolitics of air. When air is leading the way, we can take our curiosities in new directions.

My father recently had an operation for bowel cancer. The operation was fine but, recovering in hospital after it, he got a life-threatening air-borne infection and almost died. Thinking with air in post-industrial methodology means tuning into – somehow and with a bit more urgency – the challenge of how posthuman theory might support more ethical aerographic practices.

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ontologically prior, and that there is no 'outside place' – no 'god trick' from which or by which we come to know the world. We are, as Karen Barad (2007) would say, not in but *of* the world in its ongoing mattering. This shifts responsibility from a human-centric perspective to a capacity to respond, to be response-able. A posthuman / materialist somatechnics is, then, in the words of one of the originators of the term, attentive to 'the inextricability of soma and techne, of bodily-being-in-the-world, and the *dispositifs* in and through which corporealities, identities, difference(s) are formed and transformed' (Sullivan 2012: 302). Our posthuman / materialist orientation apprehends *techne* not as something added to the body, but as a human-nonhuman ontologically distributed and ethically response-able mattering: a non-divisibility of the material-discursive.

As educators working in universities in post-industrial cities, we are interested in the pedagogic and research potentialities of posthuman / materialist approaches. We speculate on the critical resources they release to enable us to contest – albeit in small but not, we would argue, insignificant ways – the social and cultural violences that have been produced by anthropocentric, colonialist, progressivist narratives of industrialisation, the material results of which we see, touch, smell, feel, and sense every time we walk through our respective

Image 4 *Untitled* (Carol A. Taylor)

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cities. Our task, we think, is to endeavour to (re)-orient higher education pedagogy and research toward a more socially just, materially-located, capacious, and generous understanding. To be clear, posthumanism, as we use it, does *not* suggest a disregard for the human or a removal of the human – especially the racialised human – from the research process. Instead, posthuman research as an onto-ethics sharpens the focus on human accountability. It seeks to address more directly questions of how humans are responsible because of their co-imbrication within 'transcorporeal transits of matter' (Neimanis 2013: 25).

Human accountability begins with the recognition that our educational institutions, our pedagogies, our research practices are entwined in the material-discursive rhythms of the everyday life of their cities. They work in concert with nonhuman-human bodies of all kinds, all bearing and sharing the marks of larger spatial, social, cultural, historical, and economic damages and trajectories. As pedagogues and researchers we are embedded bodies, our cartographies are enmeshed with(in) the 'obstinate' forces and materialites that shape us (Neimanis 2013, 25), and these multiple bodies in concert enable knowledges to emerge and proliferate. Being responsible and becoming response-able is not simply about

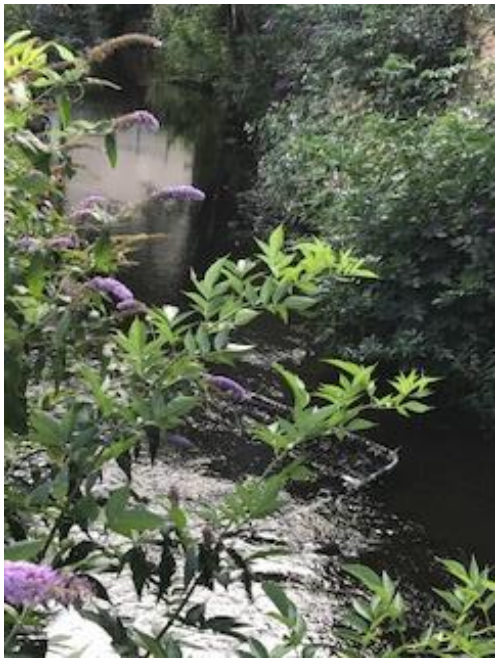

Image 5 *Untitled* (Carol A. Taylor)

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acknowledging post-industrial legacies and the impact of environmental depredation on nonhuman lives, including animals, flora, the climate, landscape, and 'nature' (Alaimo 2016) – although this of course *is* necessary – it is about how to re-orient higher education away from economic instrumentalism, input-output assessments, and competitive individualism, and towards ways of learning as joyful, troubling, and relational knowing-in-being (Taylor 2019a). Such a pedagogy can be joyful when oriented to learning-in-relation and troubling because relationality confronts us with the damages produced through differing effects of privilege. The 'what matters, for whom, how, and why?' (Haraway 2016) is a question of being response-able in ways that animate our pedagogy, our research, and our sense of our civic role as educators in post-industrial cities.

Having laid out our posthuman/ materialist theoretical rationale, the following two sections turn to methodological concerns: first, to explain the unconventional writing and

Air

Pollution is killing 50,000 people a year in the UK, it is:

> 'The largest environmental cause of disease and premature death in the world today'. Polluted air is 'responsible for an estimated 9 million premature deaths in 2015—16% of all deaths worldwide—three times more deaths than from AIDS, tuberculosis, and malaria combined and 15 times more than from all wars and other forms of violence' (The Lancet 2017).

In Sheffield, there are air measuring devices all over the city. Children here have high rates of asthma and respiratory diseases. Air is measured, reckoned, its particles pored over, the rates of exchange of its toxins calculated. As material element in commons, air, like water, challenges 'three dominant understandings of corporeality: discrete individualism; anthropocentrism; and phallogocentrism' (Neimanis 2017: 3). Still, if air has no habitat, is non-localizable, how can it be cared for? Whose responsibility it is? All of us are – which often means that none of us are.

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layout approach that posthuman / materialist theory prompts; and second, to discuss the three experimental research modes we enacted.

Writing Otherwise

As reader of this article, you may already be feeling disoriented by our refusal to utilise a linear writing style. The textual and image insertions may already have annoyed, interested, or excited you. We wonder but cannot know. Such a speculative approach troubles writing by aiming at the production of 'another sort of sense' (Taylor and Gannon 2018: 466), one which works outside business-as-usual academic writing modes of explain-exemplify-demonstrate-justify. Just as our experimental research practices (see next section) aimed to confound developmentalist narratives of our respective cities' decline and fall, so we felt it important that the writing and presentation of this article also confounded normative modes of article writing. For this reason, a split-page layout is used in which our empirical materials (the elemental essays and images) are arranged above the line and our musings on these are positioned below the line, positionings which, we must emphasise, frustrate an easy relay between the two. Likewise, all the images are 'untitled' and, again, this speaks to a desire to

Image 6 *Untitled* (Jasmine B. Ulmer)

keep meaning on the move, to unleash the polysemic potential of images, to refuse to anchor them with words, to tie them down, to ensure that they must be 'read' in a particular way. Instead, inspired by Barad (2007) and Haraway (1997) we seek to let writing and reading take hold via diffraction patterns, as patterns of difference and resonance, so that intent is queered (in that it has no singular-bodied author) and reception might proliferate and multiply. Such writing otherwise has precedents, for example, Geoffrey Bennington-Jacques Derrida's (1993) experiment of writing in the margins of thought and recent experiments in doing academic writing differently (Guttorm et al. 2016; Pullen and Rhodes 2008). We speculate as to whether deploying layout as materialist and fragmentary instantiates a somatic act of writing and whether it invites a somatic, even *somatechnic*, reading. The text circles, approaches, moves circuitously, glances off and toward. It does not provide a 'direct answer', rather it creates an epistemological space for 'interference, reinforcement, difference' in which what matters is 'heterogeneous history, not … originals' (Haraway 1997: 273). Diffraction, thus, works as a 'narrative, graphic, psychological, spiritual, and political technology for making consequential meanings' (1997: 273), as a refiguring of research as, in

Water
I am hailed by road grids and ironworks with maker's marks
EN124 CLASS D 400 DUCTILE CLARKSTEEL
LAKES FOUNDRY LIMITED
Yorkshire cobbles emerge from under tarmac. My feet take me over road grids for accessing water, past stagnant water visible through grid bars, and next to high fences protecting new business start-ups. Following the river flow via contamination and containment I happen on a watery oasis: A 'pocket park' five minutes from my university building which I didn't know existed. The sky is turning greyer (ah, but which grey?), the wind lifts, shifts and buffets more strongly, and it begins to rain in spit and spots. Ferns, red hot pokers, mosses, wildflowers, the greenest cultivated grasses sit together in a tiny amphitheatre facing the river. Yorkshire stone seats, smooth and yellow, enclose an airy knoll, a constructed space for watery contemplation. The water flows by doing its thing. Humans have already made marks on this place: a discarded beer can, chipsticks, and graffiti. Later, I read about such pocket parks as a zone of 're-naturalization', an optimistic collaboration between Sheffield City Council, the Environment Agency and the Wild Trout Trust, to create places 'to escape the demands of city life for a few moments'. It is part of a green corridor, a scheme to reduce flood risk, a prize winner in a city regeneration competition, and a way-station in a planned city centre walk. It is part of the City Council's Breathing Spaces programme, a long-term progressive reclamation plan which will restore salmon North Atlantic salmon to Sheffield's rivers.

Barad's (2007: 55) words, a 'dynamic practice of material engagement with the world'.

Doing Data Otherwise

Our attempts to take up a materialist 'theorypractice' (St. Pierre 2016: 112) also shaped our understandings of what 'counts' as data. Our elemental-empirical thinking-withs (water, air, and metal) were responsive to the notion that 'data' are potentially everything, everywhere, all the time (Koro-Ljungberg and MacLure 2013), that data are active agents, that data 'get themselves in trouble in time, space, and within different interactions and relations' (Koro-Ljungberg et al. 2018: 470). We also resisted the 'comforts of a well-wrought coding scheme' (MacLure 2013: 228), instead inviting data to hail *us* in assisting us to 'fore-ground' what is usually backgrounded: the post-industrial cities – Sheffield and Detroit – in which we live, research, and work. In attending to the elemental particularities of water, air, and metal we take up Erin Manning's (2016: 23) notion of 'in-form' as 'opening the [research] act to its potential'. In-forming methodology was, for us, a somatechnics of becoming-attentive to

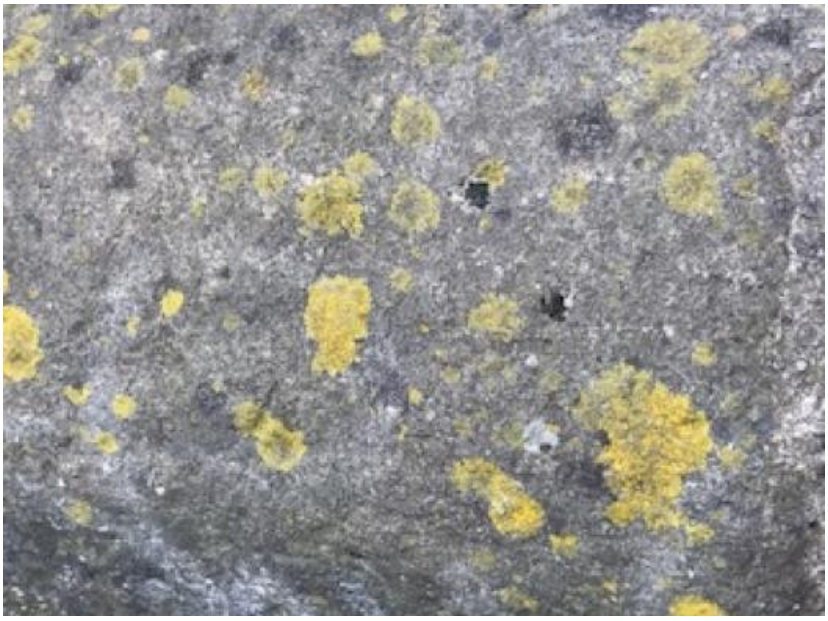

Image 7 *Untitled* (Carol A. Taylor)

unexpected and surprising new relations in the post-industrial the cities we each inhabit. This in-forming methodology shaped our endeavours in a number of ways. Gale Miller's (1999: 229) comment that '[we] can only imagine the future by reflecting on the past and the present' had particular resonance, tangling us up in concerns about how a non-linear understanding of space and time recognises that we are deeply touched *now* (affectively, physically, corporeally) by the infrastructural and environmental depredations our cities have been marked by as a result of their industrial pasts. In addition, the desire to refuse the view that the 'ethnographer [might be] extraordinary' (1999: 36) provoked us to engage our empirical materials via research oriented as embodied, speculative, everyday adventure.

Towards a Situated, Speculative, Somatechnic Methodology: What Did We Do?

At the same time but in different places, we moved through our respective cities on parallel daily journeys. We were hailed by water, air, and metal; we intra-acted with these elementals; and they in-formed us sensorially, affectively, and corporeally in our walking, photographing,

Image 8 *Untitled* (Carol A. Taylor)

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and pausing.

Serendipitous walking

Usually translated as 'happy accident', serendipity is about finding things you didn't seek, being led by curiosity, being taken up in speculation. It is about wondering what happens if … I amble there or stroll here … and then becoming-caught-up by what occurs when you do that. Serendipitous walking is not 'goal-directed in the sense of getting to a preconceived destination' but is walking undertaken 'with physically and mentally flexible, free movements' (Jung 2013: 622). Serendipitous walking is about movement in/of the sensorial body; about the body's openness to affective immersion in place-scapes; it is about knowing in-with mindbody rather than knowing at a distance based on the cognitive logic of a Cartesian mind/body split; it is about being open to 'unfixed impermanence … unrepeatable and fleeing situation[s]' (Springgay 2011: 645). Serendipitous walking differs markedly from that celebrated by psychogeography in which walking is centred in the White male flâneur, a

Image 9 *Untitled* (Jasmine B. Ulmer)

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voyeur whose leisurely strolls put the city and its inhabitants at his disposal. Opposing this, posthuman serendipitous walking unsettles that controlling I/eye by dissolving it with/in the nonhuman and the natural, rendering such boundaries obsolete, and thereby provoking an entangled speculative somatechnics for 'understanding, knowing and [producing] knowledge' (Pink 2009: 8) about post-industrial cityscapes. Methodologically, serendipitous walking diffracts discursive modes of walking interview methodologies which privilege speech and human interaction. Instead, its transcorporeal processual ontology enmeshes humans and non-humans in epistemologically productive and emergent ways, thereby engendering senses of space (and place) as a multiple, discontinuous, heterogeneous mesh of 'stories so far' (Massey 2005). Serendipitous walking as multisensory work, then, helps configure 'a sense of self in relation to historical, geographical, and localized environments' (Powell 2010: 553) which encourage us to be mindful of global power plays and the precarities of place they produce (Alaimo 2016).

Diffractive photo elicitation

Air

Some people think air is invisible. But in Detroit I can see it out the windows.

I see air rise in smoky plumes. The air has stuff in it. Factories and industrial buildings poised on municipal and international borders—releasing who knows what into the sky as if it goes away—as if the sky had borders, too. As if air could be directed like the traffic on Interstate-75 as it cuts through incinerators, mills, and fossil fuel power stations – as if it were not all our air, together.

The city was on fire (Kaffer 2015).

The buildings continued to burn, one-by-one, leaving empty, charred shells behind as reminders. I drove through them on my way to work, on my way to the market, on my way to everywhere. In the days before guests would arrive, I would carefully plot and re-plot new routes, attempting to bypass what others might find alarming. I was incredibly wary – and still am – of furthering deficit discourses that the city is dangerous or unsafe. I strongly disagree, and work to produce counter-narratives of the visual perspectives that can be overlooked amidst the ashes and rubble. Detroit offers a mirror to our hopes and fears, one in which it is easy to see what we want to see.

The air, however, perhaps lends itself less to this sort of appropriation. For better or for worse, we do not tend to see ourselves in the air. Although I was not able to not smell the fires burning, as distributed as they were around the city, they were in the air nonetheless. It was around then that a demolition program described by local newspapers as 'speedy' and 'ambitious' began to pick up the pace. The fires began to slow down, and I less often saw those wispy threads from my windows. It seems that progress has been made (Farrell 2017). Less visible, however, has been the potential escape of asbestos into the air on occasions when, during some demolitions, it seems that safety might have fallen prey to speed (Dixon and Guillen 2017).

Scholarship using photo elicitation usually centres on humans taking photographs of other humans, or on photographs of objects and settings with human significance. In this human-centric methodological frame, photographs are treated as if they represented a 'slice of real life', as if they 'capture' a portion of 'the social world' (Clark-Ibáñez 2004). Photo elicitation is considered as presenting an unmediated 'moment in time' caught on camera from which meaning can be unproblematically derived (Harper 2005). The posthumanist speculative somatechnic perspective we deployed pushed us to wonder how this conventional visual method might be taken up in more onto-epistemological ways in post-industrial realms. How might photo elicitation be made less anthropocentric, so that it is less about us (humans) as researcher-subjects desiring to define the world through photography, and more about

Water

The Detroit River holds more than can be seen. It holds catfish, carp, pike, bass, and walleye, among others; they, in turn, hold mercury, dioxin, and PCBs. The river hosts more toxic algae blooms than many local humans would desire, but costs more money than many current national leaders would care to spend to fix. At one point, the river and the lakes which it feeds were considered 'dead'. Slowly, yet tenuously – and without the aid of full restoration efforts – the wildlife is beginning to return.

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apprehending the ways in which our more-than-human world is already speaking to and with us? Iris van der Tuin (2014) notes that diffraction – understood in Barad's (2007) sense of paying attention to the relation nature of difference and acknowledging the interferences that are thereby produced – offers a useful methodology for posthuman interpellation. This diffractive orientation aligned well with our methodological desire: to develop photo elicitation not as a means to capture or represent, but to open up possibilities for *us* to be captured by the images that surround us, thereby inverting a human-centric sense of interpellation. Diffracting photo elicitation was a posthuman somatechnic venture to enhance our capacity to attend to the rhythms, sensations, and affects that move through us as we move through our everyday post-industrial cities. In allowing images to elicit us, we sought to shift from an analysis of what images *mean* to considerations of what images *produce*.

The practice of the pause

Prior to our work together on this project we had both developed an interest in ways of conducting research and devising pedagogy which pushed back against what we saw as damaging trends in current neoliberal academic practice: the metrics and measurement practices; the individualising, competitive technologies of the self; universities as input-output knowledge factories in an entrepreneurial marketplace; and the push for institutional prestige in a globally competitive educational market (Pereira 2016). The inequalities, separation, differentiation, and hierarchisation such practices produce, allied to the insanely

Metal

City of Steel. City ringed by seven hills and ringed again by the Peaks and the Moors and the local places where steel factories used to be. A city exposed and sheltered. A city ex(X)ed in many ways: ex-mining, ex-steel industry, and an ex-ample of an enduring strain of working class politics that threads back through time to 1801–02 with the emergence of secret insurrectionary societies which required oaths to be taken, which manufactured steel pikes so men might bear arms against their oppressors when called on, and which distributed messages of independence and equalization of civil, political, and religious rights printed by emergent popular presses. In the 1860s the Sheffield 'Old Jacks' sang 'God Save Great Thomas Paine', and the government, fearful of agitators, passed laws against 'combination'. Steel City. The Socialist Republic of South Yorkshire.

The historian, E.P. Thomson (1963: 286) notes that it was 'the extreme specialization of the Sheffield cutlery industry [with its] exceptionally strong political and trade union traditions' which contributed to Sheffield being spared the extremities of poverty, pollution and overcrowding which afflicted other Northern cities in the early years of the industrial revolution. Yet this skills heritage could not protect it from the ravages of contemporary global capitalism. While Sheffield might not have been the 'stinking enclave' (1963: 355) that other Northern weaving and textile towns such as Manchester, Bolton and Leeds were, its steel industry and manufacturing nevertheless helped make it a place of incredible human suffering for the urban poor – infant mortality rates of 25%, a mass of diseases (consumption, measles, small pox, whooping cough, scarlet fever), and high use of alcohol and opiates to cope with poverty and overwork. 19th century evidence on population growth and movement shows the middle classes took flight/fright from the inner city and only very recently began to return.

19th century Sheffield's workers were freemen and artisans. Theirs was crucible steel. The Bessemer convertor, patented in 1856 and one of the most important inventions in engineering history, turned molten pig iron into steel by blasting air through it, making steel cheaper and easier to produce. In 1858, the Bessemer Steel Works established Sheffield as a world centre for the production of steel. Railways, wars and dining tables around the world depended on Sheffield steel. Sheffield shipped the bowie knife to the USA; the invention of Old Sheffield Plate saw Sheffield-made coffee pots, buckles, candlesticks and snuff boxes travelling the world. And stainless steel, discovered in Sheffield by Harry Brearley in 1913, shaped the architectural look and feel of the modern city, from the 'Staybrite' stainless steel sign for London's Savoy hotel to the stainless chromium-nickel steel of the New York Chrysler Building.

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long hours of 'presenteeism' institutions increasingly demand, shape academics' practices in ways which often work against collaboration, relationality, and the deep immersion the generation of knowledge requires. Prior our work together on this project, we had each reached toward ways of doing academia which involved the attentiveness of slow scholarship and ways of becoming more response-able within entangled human-nonhuman worlds. Slow is not about working at snail's pace (as if a literal slowing down would solve the problem rather than be simply the beginning condition for the emergence of one of many solutions). Slow is, rather, a commitment to alternative approaches to doing education inspired by the

> Men of steel and women of steel. People shaped by furnaces, fire, and water; by graft and the bodily grace; by power and hardness it endows. People made tough by their work of tempering metal. Mettle from metal. Steelwork(er)s fed by rivers – the Don, Sheaf, Loxley, Porter, and Rivelin – flowing down from faraway hills: this city a place of watery abundance, a meeting point for living and dying of all kinds. The Angel of the North – made from corrosion resistant weathering steel which rusts over the years in chemical choreography with rain, wind and sun – extends its embracing wings from Newcastle down country, looking over and protecting this small city.
>
> Walking this city's streets to work there is metal everywhere in sight, underfoot and to hand, a seeing-feeling-sensing history that invites me to stop awhile and reassemble its history as a bodily convergence and collision of pasts-presents. Small factories next to university buildings; the artisan heritage alive in the grid system which runs a lane straight through my place of work; the works next door to my university building which houses the Academy of Makers, designers and small-scale craftspeople; the steel walls on the sixth floor of the place I work is turning red and bright and rough with a deliberate rust. Sheffield steel lives and breathes in these co-(e)motional, entangled re-memberings. This weathered and watery hard place, these cold streets, these brick, glass and steel facades. There is weight and heft here which, somehow, holds me lightly and moves me softly. Indeed, in this city, there *is* a certain slant of light.

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slow movement, including deceleration and creating time-spaces for nurturing non-commercial forms of being for an ethic of human-nonhuman care. This project instantiated slow via 'the practice of the pause', that is, slow as attentiveness to the granularity of materiality, power, and place, in which we might tune into the uneven environmental impact of past and present post-industrial capitalist configurations.

In our respective cities during the same weekly time-frame, our three elemental thinking-withs – water, air, metal – materialised in a series of visual images and written essays. Unplanned and unscripted, the images and essays were written separately, shared via Dropbox, and discussed. They are included in the article as they were taken or written, without subsequent revisions or amendments. The article's form, as indicated previously, reaches toward a polyphonic assemblage of contaminated encounters. As gatherings which are greater than the sum of their parts (Tsing 2015: 27), they seek to effect, and hopefully affect the reader as 'new storytelling opportunities' (Miller 1999: 369) regarding the spaces and places of the post-industrial cities we inhabit.

Image 10 *Untitled* (Carol A. Taylor)

A Situated, Speculative, Posthuman Somatechnics

The remainder of this article continues to entangle our visual images and elemental essays with the diffractive speculations on the post-industrial city they prompt but we now turn to what new pathways our methodology opens up in terms of higher education research and pedagogy. We suggest four propositions which uproot traditional humanist methodologies, their anthropocentric exceptionalism, and their subject/object binaries.

Proposition (1): A situated, speculative somatechnics is an entangled experimental-methodological endeavour

A situated, speculative, somatechnical methodology is about attending to entangled ecologies of human and more-than-human bodies. This shapes a posthuman somatechnics as a co-

Image 11 *Untitled* (Jasmine B. Ulmer)

motional creative venture between all bodies of all sorts as they encounter, connect, or collide with other bodies, technologies, the built environment, the naturalcultural world, the cosmos. A situated, speculative, posthuman somatechnics offers both a radically different *ontological* position for conceptualising bodies-in-relation and different *epistemological* means – multi-logical, non-essentialist, fluid, emergent, sensorial, and rhizomic – for producing knowledge about bodies-in-relation. Some writers on somatechnics have made this point already. Joseph Pugliese and Susan O'Neal Stryker, for example, note that:

> The term somatechnics troubles and blurs the boundary between embodied subject and technologized object, and thus between the human and the non-human, and the living and the inert, and it asks us to pay attention to where, precisely, a prosthesis stops and a body starts. In doing so, somatechnics suggests the possibility of radically different ways of relating embodied subjectivity to the environment, ways that require a metaphysics not predicated on the subject/object split. (Pugliese and Stryker 2009: 1)

Image 12 *Untitled* (Carol A. Taylor)

Our argument is that the different onto-epistemological starting points for a posthuman somatechnics require the invention of new methodological modes for conducting investigations into how embodied subjectivities are considered in relation to their environments. These methodologies need to be experimental, emergent, and productively unsettling. They need to focus on the now, on haecceities, the instance, the event, the moment, in order to refuse the 'business-as-usual' of conventional methods. Doing methodology in posthuman, somatechnical vein puts into doubt the centrality of the human ego-centric, Enlightenment subject, and the privileging of a rational and cognitive mode of knowing that this subject assumes (Braidotti 2006, 2013; Colebrook 2014). Our own pass at this has been to think-with the elementals of water, metal and air in order to foreground the nonhuman-human relations of bodies (*soma*) and technologies/crafts (*techne*) in post-industrial spaces.

Image 13 *Untitled* (Carol A. Taylor)

Proposition (2): A situated, speculative somatechnics entails a more expansive view of social justice

Donna Haraway (2016) and Anna Tsing (2015) urge us to consider how to live on a damaged planet, in places where the possibilities of/for life have been diminished for all species along with humans, and they acknowledge that these effects (the spread of toxins, damage to ecosystems) are differentially distributed. The proposition here is that while we cannot bear to look, we *have* to look, we have to allow ourselves to be hailed by the elemental notes of life *and* death, vibrancy *and* decay, flourishing *and* destruction that post-industrial spaces are charged with. The diffractive photo elicitation we have undertaken contests the photographic and developmentalist logics of 'ruin porn' that has been attached to both of our cities. It works as an ethico-onto-epistemological prompt to forge thinking-becoming-knowing as a mode of relational ethics founded on connection, solidarity, and collaboration which, we hope, can reshape the academy through an outward orientation to. This produces ethics as always entangled, provisional, and, in Tsing's (2015) words, patchy. Being hailed by, and entangling ourselves with, the patchiness of post-industrial cities can, we propose,

Water

In first flowing from east to west, the Detroit River cuts an artificial boundary between nation-states into the land. The histories on either side cannot be told without it. Less than a mile wide at its narrowest point, over time, the river has offered an important corridor for wildlife, Indigenous populations, traders, settlers, industrial manufacturers, and those seeking freedom. As the last stop on the Underground Railroad, the river offered passage to freedom and safety for those who had escaped from slavery not in the US, 'the land of the free', but in Canada, 'the land of hope for all who toil'.

Yet, before settlers arrived, however, there was a different sense of freedom. The land lived in reciprocation with the *Niswi-mishkodewin*, or People of the Three Fires. The air and the water were left to exist. They were free. The Anthropocene, however, ushered in a different epoch, one in which air and water would be subject to the burning of waste, placement of byproducts into the river, and treatment of both as secondary to the interests of humankind.

Before prohibition, when the sale of alcohol was forbidden in the US, workers would row their way across the river to Canada, work a full shift at what eventually would become a major whiskey factory, and then row their way back for a few hours rest before repeating the cycle again. Before company housing was built, corporate ferries began to transport the workers later on so that their bodies might expend energy on what mattered most: their manufacturing shifts. During prohibition, the river in its shortest width presented both opportunities and challenge. When row boats in the dark of night were interrupted by police, crates of whiskey packed in salt were thrown overboard. After the salt melted in the water, the crates would again rise, ready to be skimmed off the morning waters at sunrise. In colder months, when the river froze, bootleggers would drive Model-T cars packed with whiskey to the edge of the river, carefully push them across the ice, and, if successful, return to solid land. Though we might today look back at model Model-T cars—the first to be made by Henry Ford and his automobile factory—as something incredibly valuable, at that time, it was the freight, rather than the vehicle, that was significant. Not all cars crossed safely; many remain at the bottom of the Detroit River today. When I look down at the river, I wonder where they are and what else the waters hold.

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orient us to the potential for affirmative, generative life in its situated ongoingness. A posthuman, somatechnical methodology opens a means to engage with patchiness and precarity so that we may better attend to the 'mosaic of open-ended assemblages of entangled ways of life' (Tsing 2015: 4–5). Thinking with 'patchiness' as a more expansive view of social justice is a pedagogical and research problematic which holds open the invitation to consider precarity as an 'earthwide' phenomenon which is differentially distributed, located and embedded. As higher education teachers, we have worked to make this entangled patchiness more pedagogically visible in our curricula (Taylor 2019b) and as researchers we have explored how transdisciplinary and transversal modes of research doing and knowing

Image 14 *Untitled* (Carol A. Taylor)

might better attend to the material configurations of our different, specific, and ongoing heritages and histories (Taylor, Hughes, and Ulmer 2020). Our cities are changing in both dramatic and barely perceptible ways. We propose that a posthuman somatechnics offers an affirmative ethics that goes beyond the enclosures of the humanist juridical model (Braidotti 2013), while diffractive methodological attitudes urge us to pay more attention to – and take response-ability for – the ecological depredations capitalist legacies have wrought.

Proposition (3): A situated, speculative somatechnics troubles linear notions of time

Dominant higher education temporalities think of time as a linear teleology, as a straight line from then to now, as an arrow of cause and effect. Courses have hierarchical 'levels' through which students 'progress' through a series of formative points towards summative assessment. Academic careers are conceptualized as a ladder with a relentlessly upwards and onwards direction. Research projects are similarly seen as a series of stages: problem

Water

Finding the rivers in the centre of Sheffield was not easy. They inhabit culverts, pushed underground, built over during layers of industrialization and haphazard urban growth, they have become rivers seen through crumbling walls, behind decaying buildings, and over bridges used only sporadically by those who know the quick cut-throughs.

In a car park to a sports clothes warehouse is a large hole caused by the collapse of a culvert over the river Porter. With the Sheaf and the Don, the Porter is one of a number of rivers whose force, pace and mass has been contained by concrete since the 1940s. These rivers run for miles in darkness under car parks, factories, markets, roads in the city centre. But to describe them only as filthy, smelly and devoid of life is a simple and too-human story of anthropocentric appropriation. The river in that story is *for* humans, its use *to* humans the only thing that gives it value.

I pause. I start off in the collapsed car park, then follow the underground course of the river to a second car park, where the river appears at the car park's edge, behind a chain link fence, in a high-sided cutting with some rubbish at its edges. Unreachable river. I watch its flow. Doing its own thing as best it can. I walk slowly along its/ the car park's border. The fence ends, and broken-down brick wall takes over. I slow down, move slowly, orientating my body to the sound and movement of the river. I move quietly on the river's edgelands, putting one foot carefully in front of the other as I wobble along a wall, lean forward over a solid but unused bridge, listening, watching, smelling. I stand still, inhale, fill my chest with air, breathe out slowly and deliberately.

I stay-with the river for a while, looking closely at its un-nameable vegetation, the bubblings, twists, turns of its flows, the rubbish (plastic bottles, cigarette packets, chip wrappers) it carries along, which its inhabitants ingest, and which clog its progress. I feel sorrow for the life humans have made it live. I think of the river's sturdiness, water's way of getting on with it, despite, because of and with us.

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formulation, literature review, pilot, main phase, analysis, dissemination. A situated, speculative somatechnics unsettles linear notions of time; its appreciative methodology *for and with* the post-industrial city moves beyond fantasy narratives of progress or post-apocalyptic representations of time on fast-forward toward catastrophe (Colebrook 2017). In our elemental essays multiple temporalities jostle in present-ness enfolding inhuman or nonhuman modes with human time in ways which play into a different sensing of history and memory, self and environment, here and there, then and now, troubling chronology. The practice of the pause undoes linearities provoking instead a speculative musing on time within our cities as heterogeneously folded, as multiple, contradictory – and as inseparable from one's subjective experience of it. We contend, then, a situated, speculative somatechnics troubles linear notions of time in ways which make us more attentive to how our academic lives and the lives of our cities play out in multiple and contradictory 'timescapes' (Guzman-Valenzuela and Barnett 2013), which reduce developmentalist

Image 15 *Untitled* (Carol A. Taylor)

narratives to superficial and inaccurate fictions.

Proposition (4): A situated, speculative somatechnics attends to the politics of location

The posthuman, post-industrial, ecocritical methodology we have unfolded in this article poses 'attunement' as a situated, speculative, somatechnical mode of attending, in response-able ways, to the politics of location that have produced the ongoing, entangled materialities of the locations in which are university find themselves and the spaces we as university educators inhabit, as well as the sometimes uninhabitable spaces they (re)present to certain bodies. This respectful politics of attending to considers how 'matter speaks', how our cities' images elicit us, and, from that, how we may 'need to tool our senses such that we learn to listen to its multiple and interrelated voices, and ... hear and feel how matter prefigures thought in important ways' (Jackson and Fannin 2011: 436). This raises questions about: who is this 'our' and 'us', and how do these methods proceed? Like Claire Colebrook (2002: 38) we think:

Water

Throughout, birds have travelled across the river anyway, unencumbered by any notion of an avian border control that might be concerned with the transport or taxation of agricultural products such as worms, fish, and seeds across borders that the birds might carry with them from one nation state into another. The birds cross so easily, as they continue to fly.

> Thinking is not something 'we' do; thinking happens to us, from without. There is a *necessity* to thinking, for the event of thought lies beyond the autonomy of choice. Thinking happens. At the same time, this necessity is also the affirmation of chance and freedom; we are not constrained by an order or pre-given end. True freedom lies in affirming the chance of events, not being deluded that we are 'masters' or that the world is nothing more than the limited perceptions we have of it. (Colebrook 2002: 38)

Such a 'thinking happens' stance offers a profound challenge to anthropocentric institutions such as universities (and schools), their commodification of knowledge, their cognitive capitalism, and their methodological idolatry of evidence-based practice and Random Control Trials. This proposition – a situated, speculative somatechnics attends to the politics of location – suggests the need to recast the purpose of pedagogy so that it better aligns with the civic role of education in post-industrial cities – cities which have not 'failed' but whose sense of purpose, place, and futures have been shaped by the derogations of global capitalism.

This pedagogic task entails a commitment to praxis – to anticipating possible futures that are *not* 'post-educational' or 'anti-educational'. Our different spatial locations offer different possibilities for this work. In the US, for example, there are now major post-industrial cities in which public education systems have been repurposed into all-charter systems following natural or economic disasters. In the UK, the university system is organised on the basis of

capitalist competition in which students are paying customers. Such organisational factors influence the outcomes not only of cities, but of educational systems, too. The post-industrial, posthuman, situated, speculative, somatechnic approach we propose opens an innovative space for praxis-oriented pedagogical and research imperatives for envisioning better, more nurturing futures.

Conclusion

This article has explored some possibilities for the development of posthuman methodologies for post-industrial cities and has suggested some theoretical and practical ways for shaping these possibilities as a situated, speculative, somatechnic venture. The use of a diffractive layout and style is our attempt to present the entangled resonance patterns that have emerged through the theorypractices we adopted. Our desire in all of this has been to find some ways of working beyond anthropocentric notions of damage and decay and toward more affirmative figurations of, and engagements with, post-industrial cities. We envisage these methodologies and figurations as a somatechnics of seeing located in a politics of location that help produce a more generous and response-able educational praxis. Nikki Sullivan (2012: 303) argues that 'visuality is an ethico-political phenomenon … that shapes the seer and the seen, the knower and the known'. A posthuman somatechnics in which seeing and knowing locate us in relation with the nonhuman and other-then-human, emplace us with/in the minerals and elementals of our cities, can, we suggest, open some pedagogical and research counter strategies for experimentation and connection with our disregarded and alienated cityscapes. Such repurposing matters. Its patchiness takes us beyond classroom walls to reimagine where education happens – which is potentially everywhere, all the time – because it is in the spaces and places of our post-industrial cities that our students live and learn.

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